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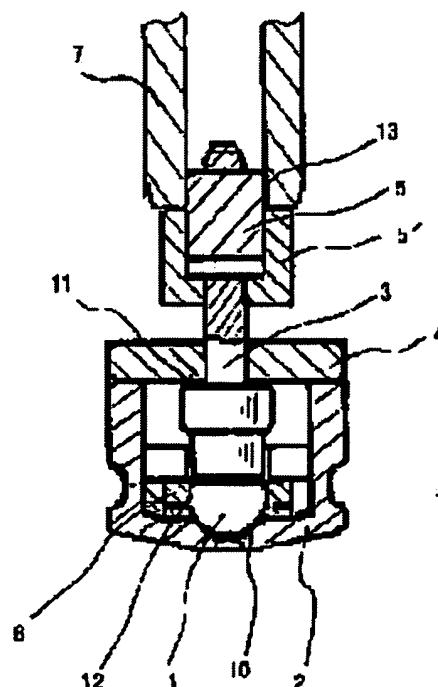
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(54) ELECTRONIC FUEL INJECTION VALVE

(57)Abstract:

PROBLEM TO BE SOLVED: To solve abrasion on an abrasion part, stabilize gas fuel, and enable supplying control by forming a surface reforming layer having an abrasion resistance on surfaces of an abrasion surface composed of respective sliding parts of a valve element and a valve seat, the valve element and a guide ring, a needle and a fixing iron core, and the needle and a stopper.

SOLUTION: Surface reforming process is executed on surfaces of respective abrasion parts of a sheet part 10 of a valve element 1 and a valve seat 2, a collision part 11 of a needle 3 and a stopper 4, an abrasion part 12 of the valve element 1 and a lower end needle guide 6, and an abrasion part 13 of an upper end needle guide 5 and a fixing iron core 7. For example, D.C. glow discharge is carried out on a surface of the valve element 1, and a plasma nitriding process is executed. On the other hand, a film of carbide



and nitride ceramics as transition metals having the thickness of few μm are formed on the surface in which plasma nitriding process is executed, in order to improving durability of the abrasion part. Namely, after plasma nitriding process is executed, CrN is coated by means of an activated reactive evaporation method of a physical evaporation method having a good adhesion with a base material.

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